

7700095

THE UNITED SHATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

North American Plant Breeders

Colherens. There has been presented to the

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, therefore, this certificate of plant variety protection is to grant unto the said applicant(s) and the successors, heirs or assigns of the said applicant(s) for the term of accentagen. Years from the date of this grant, subject to the payment of the required fees and periodic replenishment of viable basic ed of the variety in a public repository as provided by LAW, the right to expecting it, or exporting it, or offering it for sale, or reproducing it, if therefrom, to the extent provided by the Plant Variety Protection Act. United States seed of this variety (1) shall be sold by variety name only as a fight certified seed and (2) shall conform to the number of generations specified the owner of the rights. (84 stat. 1542, as amended, 7 u.s.c. 2321 et seq.)

WHEAT

'Hutch'

In Lestimonn Watercot, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington

this 22nd day of June in the year of our Lord one thousand nine bundred and seventy-eight

Musel & Sul

Commissioner Plant Variety Protection Office Grain Division

foretary of Agriculture

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE

FORM APPROVED OMB NO. 40-R3712

GRAIN DIVISION
PLANT VARIETY PROTECTION OFFICE
NATIONAL AGRICULTURAL LIBRARY
BELTSVILLE, MARYLAND 20705

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

| INSTRUCTIONS: See Reverse. | TAL VARIETY NAME | | TON CENTIFICAT | | |
|--|--|--|--|--------------------------------------|--|
| 1a, TEMPORARY DESIGNATION OF VARIETY | 1b. VARIETY NAME | | FOR OFFICIAL USE ONLY | | |
| NAPB 1293-76 | HUTCH | | 7700095 | | |
| 2. KIND NAME | 3. GENUS AND SPE | CIES NAME | FILING DATE | 9:00 A.M. | |
| Hard Red Winter Wheat | Triticum aes | stivum | FEE RECEIVED | DATE | |
| 4. FAMILY NAME (BOTANICAL) | 5. DATE OF DETERMINATION | | s 250,00 | 8-16-77 | |
| | | , | \$ 250.00 | 8-15-77 | |
| Gramineae 6. NAME OF APPLICANT(S) | August, 1970 | | 11250.00 | 5-19-78 | |
| North American Plant | Code) | and No. or R.F.D. No., | | 8. TELEPHONE AREA CODE AND NUMBER | |
| Breeders | | l Johnson Drive | 1 | 012 294 4044 | |
| | 1 | . Box 2955 sion, Kansas, 6 | 6205 | 913-384-4940 | |
| | | | | | |
| 9. IF THE NAMED APPLICANT IS NOT A PER ORGANIZATION: (Corporation, partnership, | | DATE OF INCOR | ED, GIVE STATE AND PORATION | 11. DATE OF INCOR- FORATION | |
| Partnership | _ | Connect | == = | March 9, 1973 | |
| 12. Name and mailing address of applica | ant representative | s), if any, to serve | in this application a | nd receive all papers | |
| Gi1 | es E. Dixon, | Research Direct | or | | |
| Nor | th American P. | lant Breeders | | | |
| | l Johnson Dri | ve | | | |
| | . Box 2955 | | | | |
| Mis | sion, Kansas, | 66205 | | | |
| 13A. Exhibit A, Origin and Breedi 13B. Exhibit B, Novelty Statemer 13C. Exhibit C, Objective Descrip 13D. Exhibit D, Additional Descr | nt. otion of the Variety | (Request form from P | · | , | |
| 14A. Does the applicant(s) specify that see (See Section 83(a). (If "Yes," answe | d of this variety be s r 14B and 14C below | cold by variety name o | | ed seed? | |
| 14B. Does the applicant(s) specify that this limited as to number of generations? | s variety be 140 | c. If "Yes," to 14B, h | ow many generations of | of production beyond | |
| X | YES NO | X FOUNDATION | REGISTERED | CERTIFIED | |
| 15. Does the applicant(s) agree to the pub | olication of his/her (| their) name(s) and add | dress in the Official Jou | ırnal? | |
| The applicant(s) declare(s) that a vial a certificate and will be replenished p | ole sample of basic s eriodically in accord | eed of this variety will lance with such regula | l be deposited upon rections as may be applica | quest before issuance of | |
| The undersigned applicant(s) is (are variety is distinct, uniform, and station 42 of the Plant Variety Act. |) the owner(s) of th | is sexually reproduce | d novel plant variety | and believe(s) that the | |
| Applicant(s) is (are) informed that fal | se representation he | rein can jeopardiza pr | otection and result in r | oenalties. | |
| May 20 1977 | - | | ian. | | |
| (DATE) | • | - OFF | SIGNATURE OF APPLI | CANT) | |
| (DATE) | | | (SIGNATURE OF APPLI | CANT) | |

INSTRUCTIONS

GENERAL: Send an original copy of the application, exhibits and \$250.00 fee to U.S. Dept. of Agriculture, Agricultural Marketing Service, Grain Division, National Agricultural Library, Beltsville, Maryland 20705. (See Section 180.175 of the regulations and rules of practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

TTEM

- Give the date the applicant determined that he had a new variety based on (1) the definition in Section 41(a) of the Act and (2) the date a decision was made to increase the seed.
- Give (1), the genealogy, including public and commerical varieties, lines, or clones used, and the breeding method. (2), the details of subsequent stages of selection and multiplication. (3), the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4), evidence of stability.
- Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties; (1) identify these varieties and state all differences objectively; (2) Attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.
- 13c Fill in the Exhibit C, Objective Description form for all characteristics, for which you have adequate data.
- Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C.

 Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe; such as; plant habit, plant color, disease resistance, etc.

14A If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled or published or the certificate has been issued. However, if the applicant specifies "NO", he may change his choice. (See Section 180.15 of the Regulations and Rules of Practice.)

EXHIBIT A

Origin and Breeding History of Hutch

PEDIGREE:

PCT/Y/TZP/NAR//TPR/3/C0652961/4/Baca

HISTORY: Hutch originated from a F3 bulk population purchased from Colorado State University in 1973. Single plant selections were taken in 1974 out of a space planted plot at Berthoud, Colorado. In 1975, selection number NHRW 1293-76 was put into first year yield trials. Five single plants were selected from NHRW 1293-76 and put into the purification program. NHRW 1293-76 was entered in the advanced yield trials throughout the region in 1976 and 1977.

One of the purification lines derived from a single plant selection showed all of the characteristics of NHRW 1293-76 except for height which was several inches shorter. This line was: increased and rogued closely in the greenhouse in the fall of 1975; spring planted, rogued, and increased in 1976; and entered into full scale testing in 1977. This line was tested as NHRW 1293-76E and later named "Hutch". Two hundred ninety 50-lb. units of Hutch were planted in the Fall of 1977 for registered and foundation seed increase.

During the purification of Hutch, a low incidence of variants have been rogued from the variety. The types and incidence of discards in purification plant rows were:

| Acuminate beaks | approximately | 10 % |
|------------------|---------------|------|
| Square shoulders | и | 1 % |
| Maturity | Ш | .8% |
| Height | II | .2% |
| Strap head | ' II | .2% |

According to our purification division, these variations are very low and therefore they would consider the variety quite stable.

EXHIBIT A-1

WHEAT

CLASS: Hard Red Winter

NAME: Hutch

NOMENCLATURE: Triticum aestivum

CI NO:

RELEASED: August 1977

REGISTRATION NO:

SELECTION NO: NAPB 1293-76E

PEDIGREE: PCT/Y/TZ PP/Nar//TPr/3/CO 652961/4/Baca

CULTIVAR DESCRIPTION: Hutch is a hard red winter wheat that has white glumes and awns. Straw height is slightly taller than Tam W 101 and is of good strength.

ADAPTATION AND CHARACTERISTICS: Hutch is a high yielding hard red winter wheat with resistance to soil-borne mosaic virus. Hutch is of acceptable bread making quality and adapted particularity to the soil borne mosaic areas of Kansas and Oklahoma.

GENERAL INFORMATION: The pedigree from which Hutch was selected was obtained from Colorado State University as an F3 bulk. Breeding and development was done by NAPB (Larry Robertson), Berthoud, Colorado, 80513.

OTHER SOURCES OF INFORMATION: North American Plant Breeders

5201 Johnson Drive

Mission, Kansas 66205

| REGISTRATION | NO. <u>7700095</u> | <u> </u> | | | |
|--------------------------------|-------------------------------|--------------------|----------------------|--------------------------------|-----------------------|
| VARIETY NAME | 'Hutch' | | | | |
| Test Results Chemists Appro | Based on the oved Method (| American (AACC) | Association of C | ereal | |
| 1. Straight | dough develop | oment time | : : | | |
| | Farino (| graph <u>1</u> | 0.5 | | • |
| | Dough-Mi: | xer | | | |
| | | | | | |
| 2. Baking Ingredients | Arrival time minutes | Peak time | Stability minutes | Curve center height B.U. | Height at end B.U. |
| Yeast | 2.75 | 10.5 | 20.75 | 500 | 460 |
| No rest | | | | | |
| 4 hr. rest | | | | | |
| Wheat 3. Protein p | percentage _ | 13.8% | | | |
| Flour per | centage | 12.45% | | | • |

EXHIBIT B

Data Indicative of Novelty of Hutch

Hutch is a unique variety that can be easily distinguished from all other hard red winter wheats. (See Hutch novelty comparison table.)

Baca, being a parent, is similar to Hutch in many ways. The major difference between the two would be height. Under average growing conditions, Hutch is about two inches shorter than Baca. Under environmental conditions that provide maximum height at maturity, the difference between the two will increase up to as much as six to eight inches. Other differences include; Hutch's shorter glume length, acute versus acuminate beak shape, and medium size seed with a mid-deep crease versus large seed with a shallow crease.

When compared to Tam W 101, Hutch has an acute beak shape versus acuminate, a longer glume length, a lax head instead of mid-dense middeep (2 4/17/78 25 per telephone (2017/78) head, a much smaller seed with a shallow crease, a smaller germ size, and a less erect juvenile plant growth habit. Under most growing conditions Hutch will grow slightly taller than Tam W 101.

EXHIBIT D

Additional Description of Hutch

The plants of Hutch are winter-habit, mid-early, short to semidwarf and white stemmed. The spikes are awned, tapering, lax and inclined at maturity. Glumes are glabrous, white and mid-wide with medium length. Shoulders are mid-wide and oblique. Beaks are mid-wide and acute. Kernals of Hutch are red, ovate to elliptical with a mid-sized brush that is not collared. They have rounded cheeks, a mid-sized germ (7 mm length and 3.5 mm width), and the crease is mid-wide and mid-deep.

Juvenile growth habit is semi-erect with a tendency toward high tillering. Hutch exhibits an extremely lush, full growth canopy going into the jointing stage of growth. At early maturity, a goldish cast in the awns is readily seen in the field.

Performance of Hutch, 1977
NAPB Trials Yield in bu/acre

| | Ka | Kansas | | Texas | |
|------------|---------|-------------|--------------|-------------|--|
| | Hays | Hutchinson | Nardin | Chillicothe | |
| Hutch | 29.4 | 46.5 | 54.5 | 42.7 | |
| Centurk | 24.9 | 40.1 | | | |
| Scout 66 | 25.4 | | | | |
| Tam W 101 | | | 57. 8 | 43.9 | |
| Triumph 64 | | | 52.3 | 38.6 | |
| Homes tead | | 44.3 | | | |
| | | Test Weight | ; | | |
| Hutch | 59.0 | 52.4 | 60.4 | 61.2 | |
| Centurk | 59.2 | 53.8 | | | |
| Scout 66 | 59.0 | | | | |
| Tam W 101 | | | 61.3 | 61.8 | |
| Triumph 64 | | | 62.9 | 61.7 | |
| Homes tead | | 55.0 | | | |

| | . | | | | | _ | | | _ | _ |
|-----------------------------|------------------------|----------------------|----------------------|-----------------|----------------------|------------------------|-----------------|-----------------|------------------------------|-----------------------|
| Height | semi-dwarf to short | moderately short* | moderately short* | semi- drawf* | moderately short* | semi-dwarf to short | semi- dwarf* | semi- dwarf* | moderatel short* | moderately short* |
| Juvenile Growth Habit | semi erect | N.A. | prostrate* | erect* | N.A. | erect* | semi erect | semi erect | prostrate* moderately short* | N.A. |
| Flag Leaf | twisted | N.A. | N.A. | N.A. | N.A. | N.A. | not twisted* | N.A. | not twisted* | N.A. |
| Crease: Depth | middeep | shallow* | shallow* | shallow* | shallow* | shallow* | shallow* | N.A. | N.A. | shallow to middeep |
| Germ Size | midsize | midsize | midsize | large* | midsize | midsize | N.A. | N.A | N.A. | |
| Kernal Size | medium | large* | small* | large* | Tange* | N.A. | medium | N.A. | N.A. | - |
| Head Form | Jax | lax | dense* | middense* | dense | middense* | lax | N.A. | middense* | middense* |
| Beak Shape | acute | accuminate* | accuminate* | accuminate* | N.A. | accuminate* | accuminate* | N.A. | accuminate* | N.A. |
| Shoulder Shape | oblique | oblique | oblique | oblique | oblique | square to | rounded* | square* | square to | rounded to square* |
| Glume Lenath | medium | long* | N.A. | short- | long* | medium | medium | N.A. | short* | midlong |
| Varietv | Hutch | Baca | Centurk | Tam W101 | Scout | Satanta | Wings | Sturdy | Homestead | Trison |

All information based on Crop Science Society of America registration or P.V.P. application forms.

N.A. = information not available

^{* -} signifies that trait differs from Hutch.

Wheat Application - No. 7700095 - 'Hutch'

Additional information is herewith submitted to add to the novelty statement. The novelty comparison table that we previously submitted compares 9 other varieties that we thought may cause some confusion when differentiating from Hutch. Those comparisons seemed to us to be the critical ones and failed to make the point that almost all other winter wheat varieties can be distinguished from Hutch by differences in plant height.

The following is a list of varieties that, according to our comparisons, is at least 10 cm or more, taller than Hutch: Agate, Agent, Ark, Baca, Bridger, Bronze, Buckskin, Cache, Cordon, Centurk, Cheyenne, Cloud, Commanche, Danne, Delmar, Eagle, Hand, Flex, Fox, Franklin, Froid, Gage, Gent, Hi Plains, Homestead, Itana 65, Kaw, Kirwin, Lancer, Lancota, Minter, Nicoma, Osage, Ranger, Rego, Roughrider, Sage, Scout 66, Scoutland, and Winoka.

We consider Hutch to be equal in height to: Palo Duro, Satanta, Yukon, and Pronto. Palo Duro, Yukon, and Pronto can be distinguished from Hutch by chaff color, Hutch being white and the rest bronze. Satanta can be distinguished from Hutch in beak shape (acuminate vs acute), head form (mid-dense vs lax), and crease depth (shallow vs mid-deep).

By averaging plant height data across all environments, we consider Hutch to be about 5 cm taller than Sturdy and Tam 101 and about 8 cm taller than Vona, Wings, and Lindon.

UNITED STATES DEPARTMENT OF AGRICULTURE AGRICULTURAL MARKETING SERVICE GRAIN DIVISION

EXHIBIT C (Wheat)

HYATTSVILLE, MARYLAND 20782

OBJECTIVE DESCRIPTION OF VARIETY WHEAT (TRITICUM SPP.)

| NSTRUCTIONS: Sep Reverse. | |
|--|--|
| Name OF APPLICANTIS | FOR OFFICIAL USE ONLY |
| North American Plant Breeders ADDRESS (Street and No. or R.F.D. No., City, State, and ZIP Code) | 7700095 |
| P.O. Box 2955 | VARIETY NAME OR TEMPORARY |
| Mission, Kansas 62205 | DESIGNATION |
| | Hutch |
| Place the appropriate number that describes the varietal character of | of this variety in the boxes below. |
| Place a zero in first box (c-8. 0 8 9 or 0 9) when number is | |
| 1. KIND: | |
| 1 1 = COMMON 2 = DURUM 3 = EMMER 4 = SPELT 5 = | POLISH 6 = POULARD 7 = CLUB |
| 2. TYPE | 1 = SOFT 3 = OTHER (Specity) |
| 2 1 = SPRING 2 = WINTER 3 = OTHER (Specify) | 2 = HARD |
| 2 1 = WHITE 2 = RED 3 = OTHER (Specify) | |
| 3. SEASON - NUMBER OF DAYS FROM EXXXXXXXXXXXX January | 1: |
| 1 4 2 FIRST FLOWERING | 1 4 7 LAST FLOWERING |
| MATURITY (50% Flowering): | |
| NO. OF DAYS EARLIER THAN | 1 = ARTHUR 2 = SCOUT 3 = CHRIS |
| 0 1 NO. OF DAYS LATER THAN | 4 = LEMHI 5 = NUGAINES 6 = LEEDS |
| 5. PLANT HEIGHT (From soil level to top of head): | |
| | |
| 0 8 3 CM. HIGH | |
| CM. TALLER THAN | 1 = ARTHUR 2 = SCOUT 3 = CHRIS |
| 2 1 CM. SHORTER THAN | 4 = LEMHI 5 = NUGAINES 6 = LEEDS |
| <u> </u> | L |
| S. PLANT COLOR AT BOOTING (See reverse): | 7. ANTHER COLOR: |
| 2 1 = YELLOW GREEN 2 = GREEN 3 = BLUE GREEN | 1 1 = YELLOW 2 = PURPLE |
| B. STEM: | |
| 1 Anthocyanin: 1 = ABSENT 2 = PRESENT | 2 Waxy bloom: 1 = ABSENT 2 = PRESENT |
| Hairiness of last internode of rachis: 1 = ABSENT 2 = PRESENT | 1 Internodes: 1 = HOLLOW 2 = SOLID |
| 0 3 NO. OF NODES (Originating from node above ground) | CM. INTERNODE LENGTH BETWEEN FLAG LEAF AND LEAF BELOW |
| 9. AURICLES: | |
| 2 Anthocyanin: 1 = ABSENT 2 = PRESENT | Hairiness: 1 = ABSENT 2 = PRESENT |
| O. LEAF: | |
| Flag leaf at 1 = ERECY 2 = RECURVED | <u></u> |
| 2 booting stage: 3 = OTHER (Specify): | 2 Flag leaf: 1 = NOT TWISTED 2 = TWISTED |
| 1 Hairs of first leaf sheath: 1 = ABSENT 2 = PRESENT | 2 Waxy bloom of flag leaf sheath: 1 = ABSENT 2 = PRESENT |
| MM, LEAF WIDTH (First leaf below flag loaf) | CM. LEAF LENGTH (First leaf below flag leaf): |

| 11. HEAD: | · · · · · · · · · · · · · · · · · · · | | |
|---|---|-----------------------------------|--------------------------|
| Densisy: 1 = LAX | 2 = DENSE | Shape: 1 = TAPERIN 4 = OTHER (| NG 2 = STRAP 3 = CLAVATE |
| 4 Awnedness: 1 = AWNL | LESS 2 = APICALLY AWNLETED 3 | # AWNLETED 4 = AWNED | · |
| Color at maturity: 1 = 5 = | WHITE 2 = YELLOW 3 = PINK 4 = BROWN 6 = BLACK 7 = OTHER | RED R (Specify): | <u> </u> |
| 0 9 CM. LENGTH | | 0 9 мм. width | · |
| 12. GLUMES AT MATURITY Length: 1 = SHORT (C) 3 = LONG (C) | CA. 7 mm.) 2 = MEDIUM (CA. 8 mm.) | Width: 1 = NARROW 3 = WIDE (CA | |
| | | | |
| Z shape: 4 = SQUARE | G 2 = OBLIQUE 3 = ROUNDED E 5 = ELEVATED 6 = APICULATE | Beak: 1 = OBTUSE | 2 = ACUTE 3 = ACUMINATE |
| 13. COLEOPTILE COLOR: | | 14. SEEDLING ANTHOCYA | WIN: |
| 1 = WHITE 2 = REC | | 1 = ABSENT 2 | = PRESENT |
| 15. JUYENILE PLANT GRO | WTH HABIT: | | |
| 2 1 = PROSTRATE | 2 = SEMI-ERECT 3 = EREC | т | |
| 16. SEED: | | | |
| Shape: 1 = OVATE | 2 = OVAL 3 = ELLIPTICAL | Theek: 1 = ROUNDE | D 2 = ANGULAR |
| 2 Brush: ,1 ≈ SHORT | 2 = MEDIUM 3 = LONG | Brush: 1 = NOT CO | LLARED 2 = COLLARED |
| Phenol reaction (See instructions): | 1 = IVORY • 2 = FAWN 3 = LT. BROWN 4 = BROWN 5 = BLACK | · ! | |
| 3 Color: 1 = WHITE | 2 = AMBER 3 = RED 4 = PURPLE | 5 = OTHER (Specify) | |
| 0 7 MM. LENGTH | 0 3 MM. WIDTH | 3 3 GM. PER 1000 | SEEDS |
| 17. SEED CREASE: | | | |
| 2 Width: 1 = 60% OR LE | ESS OF KERNEL 'WINOKA' | 2 Depth: 1 = 20% OR | LESS OF KERNEL 'SCOUT' |
| | SS OF KERNEL 'CHRIS' | 171 . | LESS OF KERNEL 'CHRIS' |
| | S WIDE AS KERNEL 'LEMHI' | 3 = 50% OR | LESS OF KERNEL 'LEMHI' |
| | rd, 1 = Susceptible, 2 = Resistant) | | |
| STEM RUST (Races) | LEAF RUST (Races) | 0 STRIPE RUST | LOOSE SMUT |
| 0 POWDERY MILDEW | 0 BUNT | 2 OTHER (Specify) | Soil Borne Mosaic |
| 19. INSECT: (0 = Not Tested | d, 1 = Susceptible, 2 = Resistant) | | |
| 0 SAWFLY | APHID (Bydv.) | GREEN BUG | O CEREAL LEAF BEETLE |
| OTHER (Specify) | HESSIAN FLY | 0 GP 0 A | 0 B 0 C |
| • | RACES: | 0 p | 0 F |
| 20. INDICATE WHICH VARIE | TY MOST CLOSELY RESEMBLES THAT S | UBMITTED- | |
| CHARACTER | NAME OF VARIETY | CHARACTER | NAME OF VARIETY |
| Plant tillering | Newton | Seed size | Centurk |
| Leaf size | Baca | Seed shape | Centurk |
| Leaf color | Baca | Caleoptile elongation | SMITHIN |
| Leaf corriage | | Seedling pigmentation | 14/11/2 |

INSTRUCTIONS

GENERAL: The following publications may be used as a reference aid for the standardization of terms and procedures for completing this form:

- (a) L.W. Briggle and L. P. Reitz, 1963, Classification of Triticum Species and Wheat Varieties Grown in the United States, Technical Bulletin 1278, United States Department of Agriculture.
- (b) W.E. Walls, 1965, A Standardized Phenol Method for Testing Wheat Seeds for Varietal Purity, contribution No. 28 to the handbook of seed testing prepared by the Association of Official Seed Analysts. (See attachment.)
- LEAF COLOR: Nickerson's or any recognized color fan should be used to determine the leaf color of the described variety.

BILL OF SALE AND ASSIGNMENT

KNOW ALL MEN BY THESE PRESENTS that AGRIPRO BIOSCIENCES INC., a Delaware corporation (hereinafter referred to as "Seller"), pursuant to that certain Asset Purchase Agreement of even date herewith by and between Seller and AGR ACQUISITION CORPORATION, a Delaware corporation (hereinafter referred to as "Buyer") and for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant, bargain, sell, assign, convey and deliver unto Buyer, all of Seller's right, title and interest in and to the plant varieties owned/registered by Seller and more particularly set forth on Exhibit A attached hereto for which PVP Certificates have been issued by or may be pending before the U. S. Department of Agriculture.

TO HAVE AND TO HOLD UNTO PURCHASER, its successors and assigns

IN WITNESS WHEREOF, Seller has executed this Bill of Sale and Assignment as of the 30th day of June, 1994.

AGRIPRO BIOSCIENCES INC.

| BY: | U.a. Zama | |
|--------|------------|--|
| Title: | Pros. dent | |

STATE OF KANEAS, COUNTY OF JOHNSON

WITNESS my hand and Notarial Seal at office the day and year above written.

Notary Public

My Commission Expires:

ALMA M. WEAVER
NOTARY PUBLIC
STATE OF KANSAS

My Appt. Exp.

State of Delaware Office of the Secretary of State

I, EDWARD J. FREEL, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "AGR ACQUISITION CORPORATION", CHANGING ITS NAME FROM "AGR ACQUISITION CORPORATION" TO "AGRIPRO SEEDS, INC.", FILED IN THIS OFFICE ON THE THIRTIETH DAY OF JUNE, A.D. 1994, AT 4:30 O'CLOCK P.M.

A CERTIFIED COPY OF THIS CERTIFICATE HAS BEEN FORWARDED TO THE NEW CASTLE COUNTY RECORDER OF DEEDS FOR RECORDING.

SECRETARY OF STATE

AUTHENTICATION:

7169071

944121584

8100

2394087

DATE: 07-01-94

ABI SHAWNEE MSN

2002/002

CERTIFICATE OF AMENDMENT OF CERTIFICATE OF INCORPORATION OF AGE ACQUISITION CORPORATION

AGR Acquisition Corporation, a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware,

DOES HEREBY CERTIFY:

FIRST: that the Board of Directors of said corporation, by the unanimous written consent of its members filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of said corporation:

RESOLVED, that the Certificate of Incorporation of this corporation be amended by changing the Article thereof numbered "ARTICLE I" so that, as amended, said Article shall be and read as follows:

"ARTICLE I

Name

The name of the corporation (hereinafter called the 'Corporation') is Agripro Beeds, Inc."

SECOND: That in lieu of a meeting and vote of stockholders, the sole shareholder of the corporation has given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

FOURTH: That the capital of said corporation shall not be reduced under or by reason of said amendment.

IN WITNESS WHEREOF, said AGR Acquisition Corporation has caused this certificate to be signed by Gary T. Hancock, its President, and attested by Ann Steelman, its Secretary, this 30 day of June, 1994.

AGR ACQUISITION CORPORATION

bv.

Sary T. Hangock, President

ATTEST:

BY: Ann Steelman, Secretary